



0000132522

RECEIVED

2011 DEC -1 P 2:18

AZ CORP COMMISSION
DOCKET CONTROL


Transcript Exhibit(s)

Docket #(s): RR-02635B-11-0282

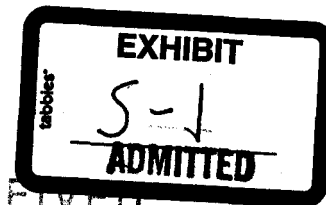
Exhibit #: S1, S2

Arizona Corporation Commission
DOCKETED

DEC 1 2011

DOCKETED BY	
-------------	---

MEMORANDUM



To: THE COMMISSION

RECEIVED

RECEIVED

From: Steven M. Olea
Interim Director
Safety Division

OCT 07 2011

2011 OCT - 7 P 12:36

Date: October 7, 2011

LEGAL DIV.
ARIZ CORPORATION COMMISSION

AZ CORP COMMISSION
DOCKET CONTROL

RE: IN THE MATTER OF THE APPLICATION OF THE ARIZONA DEPARTMENT OF TRANSPORTATION TO REMOVE AN EXISTING AT-GRADE CROSSING OF THE BURLINGTON NORHTERN SANTA FE RAILWAY AT STATE ROUTE 303 NORTH OF OLIVE AVENUE AND TO REPLACE IT WITH A NEW GRADE SEPARATED CROSSING, IN MARICOPA COUNTY, ARIZONA, USDOT NO. 025-650-C.

DOCKET NO. RR-02635B-11-0282

Background

On July 18, 2011, the Arizona Department of Transportation ("ADOT") filed with the Arizona Corporation Commission ("Commission") an application for approval for the removal of State Route 303 ("SR303") an existing at-grade crossing of the Burlington Northern Santa Fe Railway ("Railroad") in Maricopa County ("County"), Arizona, at USDOT No. 025-650-C and replace it with a new grade separated crossing. Additionally, the application requests the construction of a temporary at-grade crossing of the Railroad's tracks approximately 198 feet east of the existing crossing.

Geographical Information

The crossing is located on the Ennis Spur and is part of the Railroad's Phoenix Subdivision. The project is located at SR303 just north of Olive Avenue. The entire project is located within the County, with portions located in the City of Glendale. (See Appendix "A")

SR303

SR303 is a two lane north/south paved roadway at the railroad crossing along with left turn lanes in both directions. ADOT is the road authority at the crossing. The crossing is protected with flashing lights and gates northbound, and flashing lights, gates and a cantilever for southbound traffic. The new project consists of building a 6 to 8 lane roadway from Glendale Avenue to Peoria Avenue on the existing SR303 Freeway, and will also provide a grade separated crossing of the Railroad's tracks. The ultimate project entails expanding the roadway to 14 lanes, including ramps to and from Northern Parkway. The project also will remove the existing SR303 at-grade crossing as well as remove the existing irrigation pipes that lay under the crossing and install a new box culvert for a storm drainage channel. A temporary at-grade crossing consisting of two southbound lanes and one northbound lane will be constructed approximately 198 feet to the east of the existing at-grade crossing to allow for a traffic detour during the construction of the new grade separation. The temporary crossing will have new

FILE COPY

flashing lights, gates, and a cantilever as well as a concrete surface. This crossing will be removed when the grade separated crossing is completed.

The project is being done in three phases. The first construction phase is expected to start in the spring of 2012, and consists of constructing the temporary crossing as well as the roadway to the temporary crossing. The second phase is expected to take 20 months and will entail closing down the existing at-grade crossing and provide access to the temporary crossing while the overpass is constructed. The existing at-grade crossing will be removed along with the existing irrigation pipes underneath the railroad, and the box culvert will be installed. The third phase is expected to start in the spring of 2014. The overpass will be opened and the at-grade temporary crossing detour will be removed.

This project is being funded by the Federal Highway Administration ("FHWA"), with the exception of some traffic and landscaping costs to be covered by the Cities of Glendale and Peoria. The railroad cost is 100% State funded thru Proposition 400. The cost of the project broken down is as follows: total ADOT cost of the project is \$124,855,714.00, cost of the grade separation is \$11,237,164.00, railroad costs are; signal \$310,165.00, surface \$246,341.00, flagging \$155,660.00, inspections \$59,994.00, and right of way is \$85,914.00. Total railroad costs are \$858,074.50.

According to a 2008 Design Concept Report, the Average daily Traffic ("ADT") for 2006 was 20,100 vehicles per day ("vpd") for both directions. The projected ADT for 2030 is 128,000 vpd. According to ADOT, there is no current Level of Service ("LOS") available. However, the predicted LOS for 2030 north of Northern Avenue is LOS C.

Note: The American Association of State Highway and Transportation Officials (AASHTO) Geometric Design of Highways and Streets, 2004, states that the Level of Service characterizes the operating conditions on a facility in terms of traffic performance measures related to speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience. This is a measure of roadway congestion ranging from LOS A--least congested--to LOS F--most congested. LOS is one of the most common terms used to describe how "good" or how "bad" traffic is projected to be.

The posted speed limit on SR303 is 50 MPH. Commission Rail Safety Section ("Staff") records, as well as Federal Railroad Administration ("FRA") accident/incident records indicate no incidents at this crossing.

Alternative routes from this crossing are as follows: Sarival Road is an at-grade crossing .5 miles to the east and Cotton Lane Road is .5 miles to the west and is also an at-grade crossing.

Train Data

Data provided by the Railroad to ADOT regarding train movements through this crossing are as follows:

Train Count: 1 train per day – No passenger trains

Train Speed: 10 mph freight

Thru Freight/Switching Moves: All moves through this crossing are thru freight.

Schools and Bus Routes

There are several schools within the Dysart Unified School District near this crossing. They are:

- ✓ Shadow Ridge High School – 10909 N. Perryville Road, 3.6 miles away
- ✓ Mountain View Elementary School – 18302 W. Burton Avenue, 2.1 miles away
- ✓ Sonoran Heights Elementary School – 11405 N Greer Ranch Parkway, 3.4 miles away

According to Tracy Keily, Bus Router for the Dysart Unified School District, this crossing is used by school busses year round. Twenty-four buses use this crossing daily from August until the first of June and 7 buses use the crossing daily during the summer months of June and July.

Hospitals

The nearest hospital to the SR303 crossing is Boswell Memorial Hospital, 11 miles away.

Hazardous Materials

ADOT gave the following response when asked about hazardous materials crossing this crossing:

No factual data is available. However, due to the nature of SR303, numerous vehicles carrying hazardous material use this crossing as a link to the US60 and to I10.

Zoning

Staff requested that ADOT provide information regarding the type of zoning in adjacent areas from the crossing. The following was their response:

The surrounding areas are zoned for agriculture with future plans for the northeast, northwest, and southwest quadrants to be zoned for residential RU-43 while the southeast quadrant will be zoned for planned area development (PAD).

Spur Lines

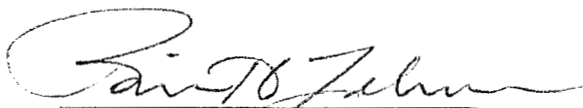
ADOT gave the following answer regarding spur lines located in the area:

The Web Spur from BNSF that travels into the Luke Air Force Base was removed in 2004.

Staff Conclusions

Having reviewed all applicable data, Staff supports ADOT's application. Staff believes the grade separation and the elimination of the at-grade crossing is in the public's interest and is reasonable. Staff believes that the measures proposed by ADOT are consistent with other similar

grade-separated crossings in the State and will provide for the public's safety. Therefore, Staff recommends approval of ADOT's application.

A handwritten signature in cursive script, appearing to read "Brian H. Lehman", written in black ink.

Brian H. Lehman
Railroad Safety Supervisor
Safety Division

Originator: BHL

COPIES of the foregoing mailed
This 7th day of October, 2011 to:

Docket No. RR-02635B-11-0282

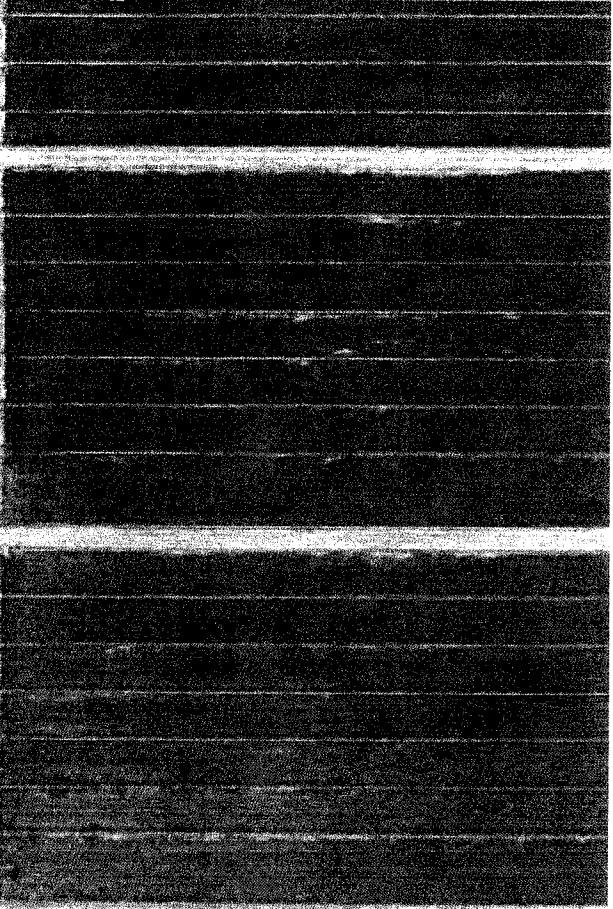
Melvin Thomas
Manager of Public Projects
BNSF
740 E. Carnegie drive
San Bernardino, CA 92408-3571

Patrick Black
Fennemore Craig
3003 N. Central Ave.
Suite 3003
Phoenix, AZ 85012-2913

Vicki Bever
Manager Utility/Railroad Engineering
Arizona Department of Transportation
205 South 17th Avenue,
Mail Drop 618E
Phoenix, Arizona 85007

Kelly Roy
Utility Coordinator
MCDOT
2901 W. Durango Street
Phoenix, AZ 85009

City Attorney's Office
CITY OF GLENDALE
5850 W. Glendale Ave., Suite 450
Glendale, AZ 85301



303

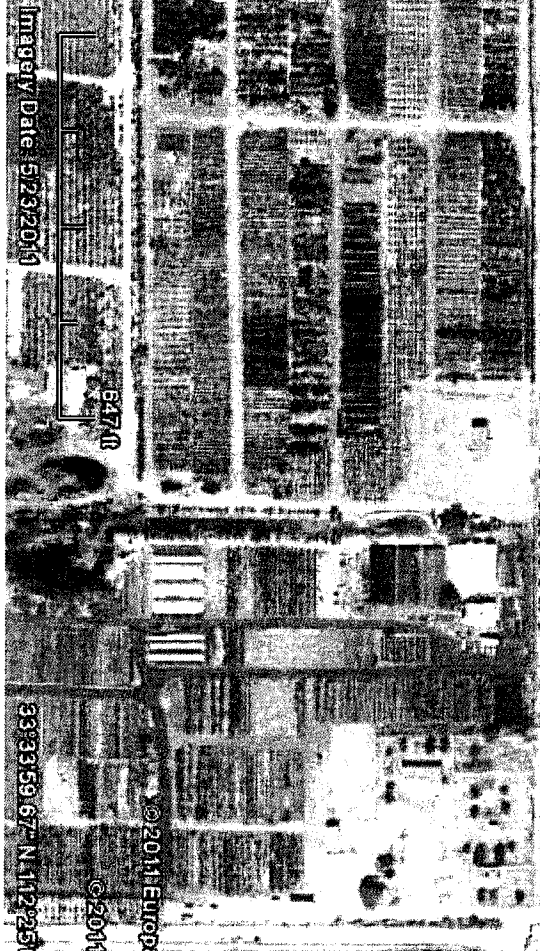
SR303 BNSF Rail Crossing

W Olive Ave



Edna Pump Memorial Pkwy

BNSF RAILROAD



847th

©2011 Europa Technologies

©2011 Google

33°33'59.67" N, 112°25'04.97" W, elev. 1180 ft

Image Date: 5/23/2013

Eye alt: 3989 ft

Google

SR303 BNSF Rail Crossing

LOLOVE AVE.

Imagery Date: 5/23/2011

© 2011 Google

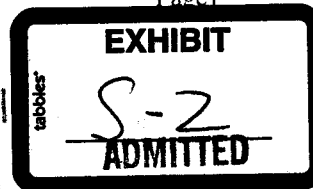
33°33'59.04"N 112°25'04.65"W elev 1179 ft

Eye alt 1663 ft

Google

Memorandum

RECEIVED



2011 NOV 10

AZ CORP COMMISSION
DOCKET CONTROL

To: THE COMMISSION

From: Steven M. Olea
Interim Director
Safety Division

Date: November 10, 2011

RE: SUPPLEMENTAL STAFF REPORT FOR:

IN THE MATTER OF THE APPLICATION OF THE ARIZONA DEPARTMENT OF TRANSPORTATION TO REMOVE AN EXISTING AT-GRADE CROSSING OF THE BURLINGTON NORTHERN SANTA FE RAILWAY AT STATE ROUTE 303 NORTH OF OLIVE AVENUE AND TO REPLACE IT WITH A NEW GRADE SEPERATED CROSSING, IN MARICOPA COUNTY, ARIZONA, USDOT NO. 025-650-C

DOCKET NO. RR-02635B-11-0282

Since the filing of the original Staff Report in the above captioned matter, it has come to the attention of Railroad Safety Section Staff ("Staff") that an issue that was not discussed within the Staff Report has arisen. In this application, a proposed temporary at-grade crossing will be installed to allow for a traffic detour during construction of the new grade separation. The temporary crossing will include railroad preemption of traffic signals.

Recently, Staff has become aware of an issue related to the implementation of traffic signal preemption at railroad crossings. Staff believes that some highway/rail at-grade crossings with railroad preemption may not have adequate timing sequences within the traffic signal controller. As a result of this improper timing, large vehicles that have stopped at a traffic intersection for a red light may protrude into the crossing intersection and be vulnerable to collision with oncoming trains. Likewise, a smaller vehicle, queued bumper to bumper among other vehicles, could be trapped in a crossing. In these circumstances, it is appropriate to utilize what is known as a track clearance green sequence. Track clearance green is a timing sequence that allows vehicles within the queue area to clear the track. The timing sequence must be sufficient to allow the design vehicle stopped within the minimum track clearance distance to start up and move through the queue area safely. Gate down logic circuitry prevents the track clearance green sequence from terminating until the descending crossing gate is 5 degrees from a horizontal position. During the track clearance green sequence, traffic signals at the intersection allowing movement over the tracks are at stop. Proper timing is essential for the sequence to work.

Both gate down logic circuitry and proper timing of the track clearance green sequence are necessary to ensure the safe operation of crossings that employ traffic signal preemption, as has been found by the Federal Railroad Administration ("FRA"). In 2010, the FRA, in conjunction with the Federal Highway Administration ("FHWA"), issued safety advisory FRA 2010-02, which highlights the issue of appropriate timing of traffic signal preemption interconnections. Thus, gate down logic circuitry is crucial to the effective employment of track clearance green.

Staff recommends that the Arizona Department of Transportation ("ADOT") or its contractor complete the Texas Department of Transportation's ("TxDOT") worksheet, entitled "Guide for Determining Time Requirements for Traffic Signal Preemption at Highway-Rail Grade Crossings," or a similar worksheet derived from TxDOT's worksheet. The main purpose of this worksheet is to determine if additional time (advance preemption) is required for the traffic signal to move stationary vehicles out of the crossing before the arrival of the train. This document can be found in the FHWA's "Railroad-Highway Grade Crossing Handbook", Revised Second Edition, August 2007, pages 294-296. Upon completion of the worksheet, Staff recommends that ADOT file the worksheet as a compliance item in this Docket so that Staff can evaluate whether the additional time determined by the calculation is appropriate. Staff shall file its evaluation of the timing calculation as a compliance item in this Docket. The Commission's approval of an order in this matter should be expressly conditioned upon ADOT's compliance with these filings indicating appropriate timing for the circuitry. Staff further recommends that, upon Staff approval of the timing recommendation, further alterations of the timing require a new application or an amendment to the order in order to implement any changes to the timing.



Brian H. Lehman
Railroad Safety Supervisor
Safety Division

Originator: BHL

COPIES of the foregoing mailed
This 10th day of November, 2011 to:

Docket No. RR-02635B-11-0282

Melvin Thomas
Manager of Public Projects
BNSF
740 E. Carnegie drive
San Bernardino, CA 92408-3571

Patrick Black
Fennemore Craig
3003 N. Central Ave.
Suite 3003
Phoenix, AZ 85012-2913

Vicki Bever
Manager Utility/Railroad Engineering
Arizona Department of Transportation
205 South 17th Avenue,
Mail Drop 618E
Phoenix, Arizona 85007

Kelly Roy
Utility Coordinator
MCDOT
2901 W. Durango Street
Phoenix, AZ 85009

City Attorney's Office
CITY OF GLENDALE
5850 W. Glendale Ave., Suite 450
Glendale, AZ 85301